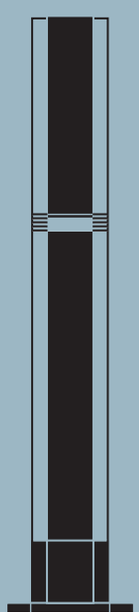
Beolab Penta

Type 6601, 6602, 6603, 6604, 6605

Beovox Penta

Type 6611



BANG & OLUFSEN

Bang&Olufsen

INDHOLD

Diagrammer 2-1
Halvlederoversigt 2-5
Elektrisk stykliste 2-8
Mekanisk stykliste 2-11
Justeringer 2-15
Tekniske specifikationer 2-15
Adskillelse 2-17
Servicetips 2-17
Isolationstest 2-21

CONTENTS

Circuit diagrams 2-1
Semi-conductors 2-5
List of electrical parts 2-8
List of mechanical parts 2-11
Adjustments 2-15
Technical specifications 2-15
Dismantling 2-17
Service tips 2-17
Insulation test 2-21

DIAGRAMFORKLARING

På diagrammet er der angivet typenumre på transistorer og IC'er i de tilfælde hvor typenummeret er entydigt for komponenters placering i kredsløbet – f.eks. TR20/BC 557B

Hvis positionsnummeret er efterfulgt af en stjerne **skal** reservedelsnummeret benyttes, da denne komponent er specielt udvalgt – f.eks. TR102*.

Koordinatsystem

De største printplader er forsynet med et koordinatsystem. Komponenterne på disse printplader er på diagrammet forsynet med en koordinatbetegnelse, som fortæller i hvilket felt på printpladen de er placeret (mindre skrifttype end positionsnummeret – f.eks. B3).

Ledningsforbindelser

Ledningsforbindelser på diagrammet er samlet i »bundter«. De enkelte ledninger er forsynet med koder, der fortæller hvortil de går.

INTERN FORBINDELSE
PÅ EN DIAGRAMSIDE

EXPLANATION OF DIAGRAM

Type numbers of transistors and IC's have been indicated on the diagram in those cases where the type number is unambiguous for the position of the component in a circuitry – e.g. TR20/BC 557B.

If the position number is followed by an asterisk the spare part number **must be used** because this component has been expecially selected – e.g. TR102*.

System of Co-ordinates

The largest PC-boards have been provided with a co-ordinate system. The components on these PC-boards are provided with a grid reference on the diagram indicating in what grid they are positioned on the PC-board (smaller typing than position numbers – e.g. B3).

Wiring Connections

The wiring connections on the diagram are assembled in »bundles«. The individual wires are coded to indicate to where they are leading.

INTERNAL CONNECTION
ON ONE DIAGRAM PAGE

Interne forbindelser på en diagramside angives med et tal. Knækket på ledningen viser i hvilken retning den anden ende af ledningen findes.

Internal connections on a diagram page are indicated by a number. The bend of the wire indicates in which direction the other end of the wire may be found.

Forsyningsspændinger
En pil og spændingen viser, hvor forsyningsspændingerne går ind i et print.

Eksempel: (7 CON.) f.eks. ved siden af forsyningsspændingen angiver det antal stedet, spændingen går ind på denne diagramside.

Supply Voltage
An arrow and the voltage show where the supply voltages are fed to a PCB.

Example: (7 CON.) next to the supply voltage indicates the number of places where to find the voltages in this diagram.

Symbol for sikkerhedskomponenter

Ved udskiftning af komponenter med dette symbol skal der anvends komponenter med samme reservedelsnummer. Den nye komponent skal monteres på samme måde som den udskiftede.

Symbol for Safety Components

When replacing components with this symbol components with identical part numbers are to be used. The new component must be fitted in the same way as the one replaced.

MÅLEBETINGELSER
Alle DC spændinger er målt i forhold til stel, med voltmeter med en indgangsmodstand på 10 Mohm.

Spændingerne er målt uden signaltilføring.

MEASURING CONDITIONS
All DC voltages have been measured in relation to ground with voltmeter with an input resistance of 10 Mohms.

The voltages have been measured without any supply of signal.

Bang&Olufsen

DIAGRAM A, Display

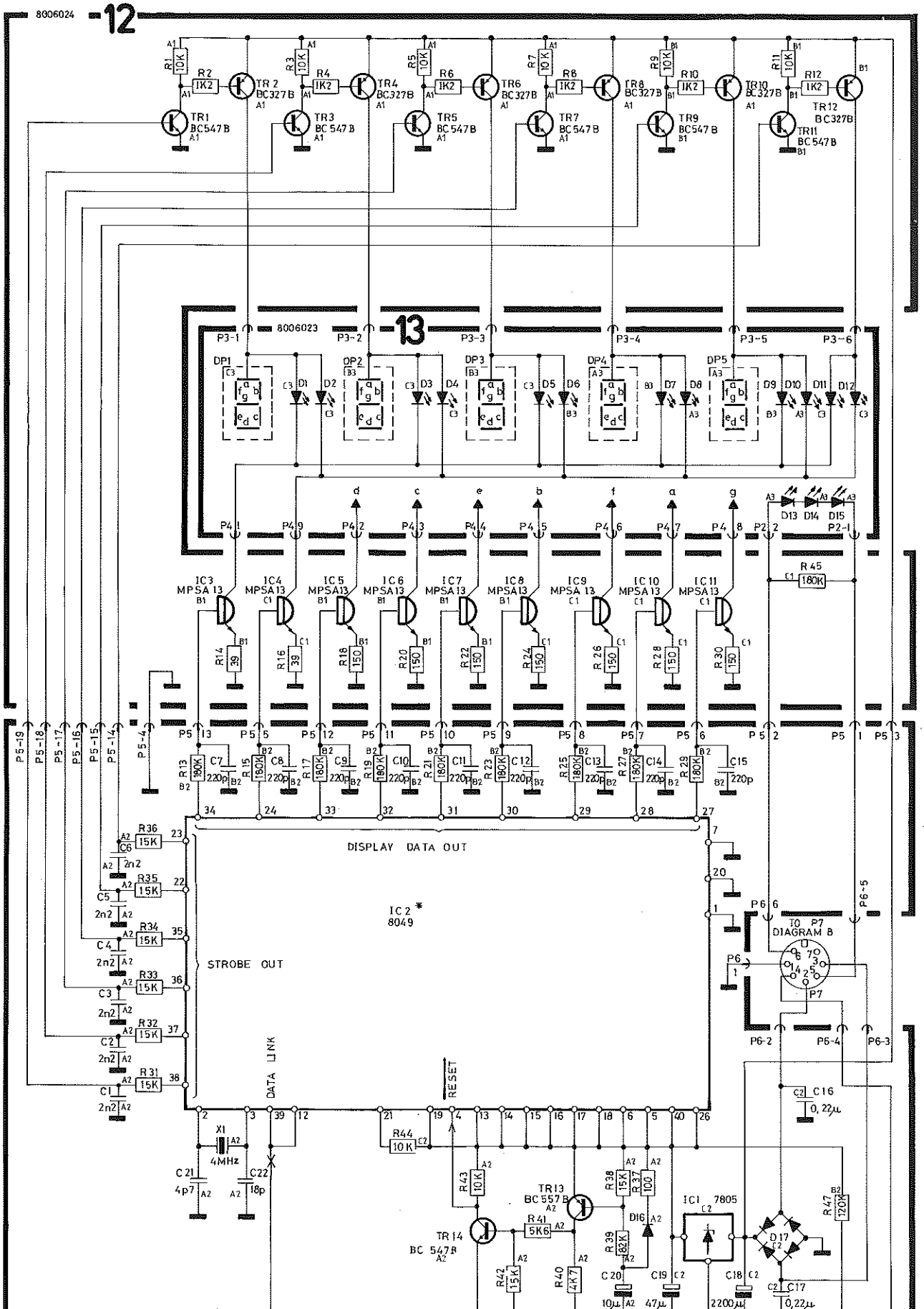
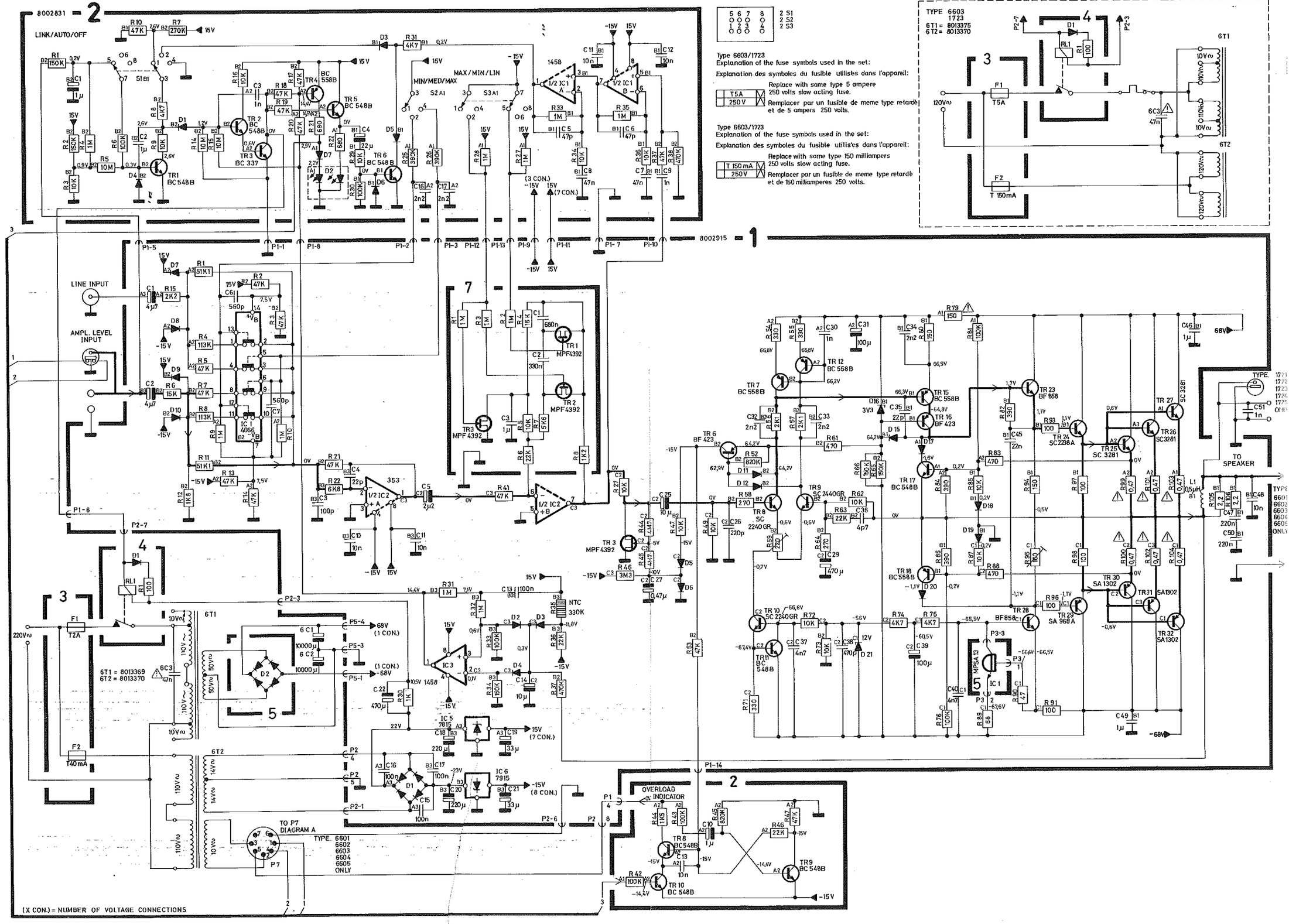


DIAGRAM B, Amplifier and Power Supply



Type 6603/1723
Explanation of the fuse symbols used in the set:
Explanation des symboles du fusible utilisés dans l'appareil:

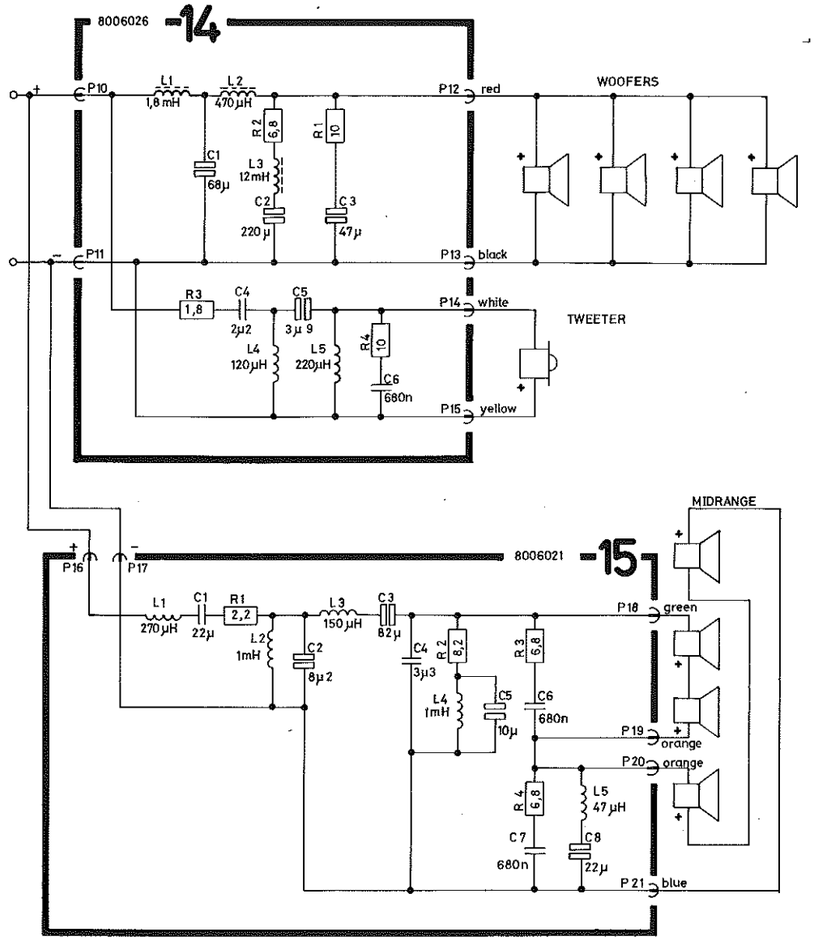
T5A 250V	Replace with same type 5 ampere 250 volts slow acting fuse. Remplacer par un fusible de meme type retardé et de 5 ampers 250 volts.

Type 6603/1723
Explanation of the fuse symbols used in the set:
Explanation des symboles du fusible utilisés dans l'appareil:

T 150mA 250V	Replace with same type 150 milliampers 250 volts slow acting fuse. Remplacer par un fusible de meme type retardé et de 150 milliamperes 250 volts.

2-5

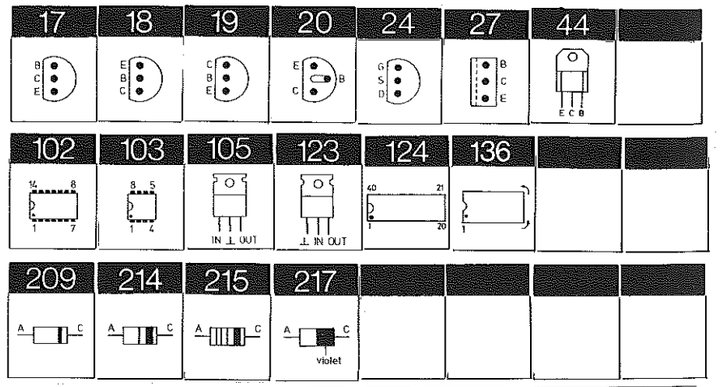
Crossover Network



3538668 10-86

2-5

SEMI CONDUCTORS



Transistors

1TR3	*△8320396	**24**	MPF 4392
		24	2N 4392
		24	2N 5639
1TR6	8320454	**17**	BF 423
1TR7	8320152	**20**	BC 212B/BK
		17	BC 212BL
		20	BC 251B
		18	BC 307B
		20	BC 557B
		27	2SA 844
1TR8-1TR10	8320641		SC 2240 GR
1TR11	8320108	**20**	BC 548B
1TR12	8320152	**20**	BC 212B/BK
1TR15		**17**	BC 212BL
		20	BC 251B
		18	BC 307B
		20	BC 557B
		27	2SA 844
1TR16	8320454	**17**	BF 423
1TR17	8320108	**20**	BC 548B
1TR18	8320152	**20**	BC 212B/BK
		17	BC 212BL
		20	BC 251B
		18	BC 307B
		20	BC 557B
		27	2SA 844
1TR23	8320646	**44**	BF 858
1TR24	8320643	**33**	2SC 2238A
1TR25-1TR27	8320645		2SC 3281
1TR28	8320646	**44**	BF 858
1TR29	8320642	**33**	2SA 968A
1TR30-1TR32	8320644		2SA 1302
2TR1	8320108	**20**	BC 548B
2TR2			
2TR3	8320595	**20**	BC 337-40
2TR4	8320152	**20**	BC 212B/BK
		17	BC 212BL
		20	BC 251B
		18	BC 307B
		20	BC 557B
		27	2SA 844
2TR5	8320108	**20**	BC 548B
2TR6			
2TR8-2TR10			
7TR1-	*△8320396	**24**	MPF 4392
7TR3		**24**	2N 4392
		24	2N 5639
11TR13	8320152	**20**	BC 212B/BK
		17	BC 212BL
		20	BC 251B
		18	BC 307B
		20	BC 557B
		27	2SA 844
11TR14	8320097	**20**	BC 182B/BK
11TR15		**17**	BC 182BL
		20	BC 237B
		20	BC 547B

12TR1	8320097	**20**	BC 182B/BK
		17	BC 182BL
		20	BC 237B
		20	BC 547B
12TR2	8320331	**20**	BC 328-25/18
12TR3	8320097	**20**	BC 182B/BK
		17	BC 182BL
		20	BC 237B
		20	BC 547B
12TR4	8320331	**20**	BC 328-25/18
12TR5	8320097	**20**	BC 182B/BK
		17	BC 182BL
		20	BC 237B
		20	BC 547B
12TR6	8320331	**20**	BC 328-25/18

12TR7	8320097	**20**	BC 182B/BK
		17	BC 182BL
		20	BC 237B
		20	BC 547B
12TR8	8320331	**20**	BC 328-25/18
12TR9	8320097	**20**	BC 182B/BK
		17	BC 182BL
		20	BC 237B
		20	BC 547B
12TR10	8320331	**20**	BC 328-25/18
12TR11	8320097	**20**	BC 182B/BK
		17	BC 182BL
		20	BC 237B
		20	BC 547B
12TR12	8320331	**20**	BC 328-25/18

IC's

1IC1	△8340202	**102**	CD 4066 BCN
		102	HEF 4066 BP
		102	MC 14066 BCP
		102	MSM 4066 RS
1IC2	8340763	**136**	LF353-TL072
1IC3	8340048	**103**	MC 1458 CP1
		103	MC 1458 N
		103	MC 1458 P
		103	SFC 2458 DC
1IC5	8340064	**105**	UA 7815
		105	UA 7815 UC
		105	LM 340 T-15
1IC6	8340240	**123**	LM 320 T-15
		123	MC 7915 CT
		123	UA 7915 UC

2IC1	8340048	**103**	MC 1458 CP1
		103	MC 1458 N
		103	MC 1458 P
		103	SFC 2458 DC
5IC1	8340054	**19**	MPS A13
		19	TPS A13
11IC1	8340212	**105**	7805
11IC2	8340836	**124**	UP 8049
12IC3-12IC11	8340054	**19**	MPS A13
		19	TPS A13

Diodes

1D1	8300466		B125 C1500
1D2-1D12	8300058	**217**	SFD 184
		209	1N 4148
		215	1N 4148
1D15	8300409	**214**	BAV 20-25
1D16	8300541		Z 3V3
1D17-	8300058	**217**	SFD 184

1D21	8300407	**209**	BZX79B 12
		209	BZX83B 12
		209	ZPD 12V
2D1	8300058	**217**	SFD 184
2D3-2D7		**209**	1N 4148
		215	1N 4148
4D1	8300058	**217**	SFD 184

5D2	8300497		KBU 6D
11D16	8300058	**217**	SFD 184
		209	1N 4148
		215	1N 4148
11D17	8300466		B125 C1500
11D18	8300407	**209**	BZX79B 12
		209	BZX83B 12
		209	ZPD 12V

13D1-13D15	8330162	LED yellow
13DP1-13DP5	8330163	Display 7-segm. yellow

△ betyder at statisk elektricitet kan ødelægge komponenten.
△ indicates that static electricity may destroy the component.
△ bedeutet, daß statische Elektrizität die Komponente zerstören kann.
△ signigi que électricité statique peut detruire le composant.

* Speciel udvalgt eller bearbejdet eksemplar.
* Specially selected or adapted sample.
* Speziell ausgewähltes und bearbeitets Exemplar.

LIST OF ELECTRICAL PARTS

Resistors not mentioned are standard resistors

Standard resistors:
Resistors 5% 1/2 W

	X1	X10	X100	X1K	X10K	X100K	X1M	X10M
1.0		5011000	5011013	5011028	5011044	5010313	5011069	5011083
1.2	5011406	5011001	5011014	5011030	5011045	5011058	5010421	
1.5	5010727	5011002	5011015	5011031	5011046	5011059	5011071	
1.8	5010857	5010787	5011016	5011033	5011047		5011072	
2.2	5011335	5010708	5010815	5011034	5011048	5011061	5011074	
2.7		5010803	5011018	5010055	5011049	5011062	5011075	
3.3	5010255	5011007	5011019	5011037		5011063	5010381	
3.9		5010782	5011021	5010700	5011051		5010392	
4.7	5010765	5011009	5011022	5010035	5010036	5011065	5011078	
5.6		5011010	5011023	5011041		5011066	5011079	
6.8	5010874	5011011	5011024	5011042	5010810	5011067	5011080	
8.2		5011012	5011026	5011043	5010038	5011068	5011081	

Resistors 5% 1/4 W

	X1	X10	X100	X1K	X10K	X100K	X1M	X10M
1.0	5010592	5010506	5010065	5010040	5010059	5010049	5010054	5010638
1.2		5010595	5010128	5010153	5010046	5010047	5010665	
1.5		5010468	5010057	5010247	5010053	5010063	5010093	
1.8		5010822	5010362	5010066	5010135	5010072	5010791	
2.2	5010682	5010448	5010092	5010064	5010079	5010120	5010245	
2.7	5010925	5010403	5010000	5010298	5010141	5010083	5010431	
3.3		5010253	5010044	5010076	5010075	5010117	5010848	
3.9		5010622	5010070	5010069	5010060	5010073	5010714	
4.7	5010888	5010411	5010058	5010048	5010045	5010077		
5.6	5010706	5010151	5010067	5010041	5010061	5010071	5010658	
6.8	5010904	5010039	5010144	5010052	5010062	5010074		
8.2	5010880	5010056	5010068	5010154	5010091	5010505		

Amplifier, 8002915, PCB 1

R1	5020363	51.1 kΩ1% 1/4W	R79	5020633	150 Ω 5% 0.35W
R4	5020126	113 kΩ 1% 1/4W	R95	5370341	100 Ω 20% 0.1W
R8	5020126	113 kΩ 1% 1/4W	R99	5100203	0.47 Ω 10% 2W
R11	5020363	51.1 kΩ 1% 1/4W	R100	5100203	0.47 Ω 10% 2W
R35	5220036	330 kΩ 10% 1/2W	R101	5100203	0.47 Ω 10% 2W
R56	5020200	2.1 kΩ 1% 1/4W	R102	5100203	0.47 Ω 10% 2W
R57	5020200	2.1 kΩ 1% 1/4W	R103	5100203	0.47 Ω 10% 2W
R59	5370351	220 Ω 20% 0.1W	R104	5100203	0.47 Ω 10% 2W
R73	5020127	10 kΩ 5% 1W			

C1	4200477	4.7 µF 20% 25V	C26	4100234	220 pF 5% 63V
C2	4200477	4.7 µF 20% 25V	C27	4200476	0.47 µF 20% 50V
C3	4100232	100 pF 5% 63V	C29	4200665	470 µF 20% 6.3V
C4	4000136	22 pF 5% 63V	C30	4010027	1 nF 10% 63V
C5	4200423	2.2 µF 20% 50V	C31	4200652	100 µF 20% 100V
C6	4010064	560 pF 10% 63V	C32	4010061	2.2 nF 10% 63V
C7	4010064	560 pF 10% 63V	C33	4010061	2.2 nF 10% 63V
C10	4010041	10 nF -20+80% 40V	C34	4010061	2.2 nF 10% 63V
C11	4010041	10 nF -20+80% 40V	C35	4003059	22 pF 5% 500V
C13	4130179	100 nF 20% 63V	C36	4000020	4.7 pF 0.25 pF 63V
C14	4200431	10 µF 20% 16V	C37	4010063	4.7 nF 10% 63V
C15	4130179	100 nF 20% 63V	C38	4010024	470 pF 10% 63V
C16	4130179	100 nF 20% 63V	C39	4200478	100 µF 20% 10V
C17	4130179	100 nF 20% 63V	C40	4010063	4.7 nF 10% 63V
C18	4200311	220 µF -10+100% 40V	C45	4130195	22 nF 5% 250V
C19	4200509	33 µF 20% 25V	C46	4130155	1 µF 10% 100V
C20	4200311	220 µF -20+100% 40V	C47	4130308	220 nF 10% 63V
C21	4200509	33 µF 20% 25V	C48	4012002	10 nF -20+50% 400V
C22	4200704	470 µF 20% 25V	C49	4130155	1 µF 10% 100V
C25	4200431	10 µF 20% 16V	C50	4130308	220 nF 10% 63V

P1	7220143	Plug 14 pol.	P3	7220313	Plug 3 pol.
P2	7220203	Plug 10/9 pol.	P5	7220196	Plug 4/3 pol.

Control, 8002831, PCB 2

C1	4200333	1 µF -10+50% 63V	C9	4010027	1 nF 10% 63V
C2	4130310	1 µF 10% 50V	C10	4200333	1 µF -10+50% 63V
C3	4010027	1 nF 10% 63V	C11	4010041	10 nF -20+80% 40V
C4	4200016	22 µF -10+50% 25V	C12	4010041	10 nF -20+80% 40V
C5	4000057	47 pF 5% 63V	C13	4010041	10 nF -20+80% 40V
C6	4000057	47 pF 5% 63V	C16	4010061	2.2 nF 10% 63V
C7	4130223	47 nF 10% 63V	C17	4010061	2.2 nF 10% 63V
C8	4130223	47 nF 10% 63V			

S1	7400350	Switch	S3	7400350	Switch
S2	7400350	Switch			

Fuses, 6271040, PCB 3 type 6601/02
Fuses, 6270343, PCB 3 type 6605

F1	6600009	Fuse 2A 250V
F2	6600070	Fuse 40MA 250V
	7200052	Fuse holder

Fuses, 6270342, PCB 3 type 6603/04

F1	6600019	Fuse 5A 250V
F2	6600069	Fuse 150MA 250V
	7200052	Fuse holder

Relay, 8002784, PCB 4

RL1	7600069	Relay
	3917109	Damping material

Signal level, 8002916, PCB 7

C1	4130311	680 nF 10% 63V	C3	4130310	1 µF 10% 50V
C2	4130309	330 nF 10% 63V			

P1	7220544	Plug 5 pol.

Display control, 8006025, PCB 11

C1	4010061	2.2 nF 10% 63V	C13	4010155	220 pF 10% 63V
C2	4010061	2.2 nF 10% 63V	C14	4010021	220 pF 10% 63V
C3	4010061	2.2 nF 10% 63V	C15	4010155	220 pF 10% 63V
C4	4010061	2.2 nF 10% 63V	C16	4130215	220 nF 20% 63V
C5	4010061	2.2 nF 10% 63V	C17	4130215	220 nF 20% 63V
C6	4010061	2.2 nF 10% 63V	C18	4200667	2200 µF -20+50% 16V
C7	4010021	220 pF 10% 63V	C19	4200617	47 µF 20% 10V
C8	4010155	220 pF 10% 63V	C20	4200431	10 µF 20% 16V
C9	4010155	220 pF 10% 63V	C21	4000020	4.7 pF ± 0.25 pF 63V
C10	4010155	220 pF 10% 63V	C22	4000167	18 pF 5% 63V
C11	4010021	220 pF 10% 63V	C23	4010027	1 nF 10% 63V
C12	4010155	220 pF 10% 63V			

P5	7220508	Plug 19 pol.	P6	7220167	Plug 6 pol

X1	8090036	4 MHz

Display drive, 8006024, PCB 12

P2	7210571	Socket 2 pol.	P4	7210284	Socket 9 pol.
P3	7210572	Socket 6 pol	P5	7210573	Socket 19 pol.

Display, 8006023, PCB 13

P2	7220505	Plug 2 pol.	P4	7220507	Plug 9 pol.
P3	7220506	Plug 6 pol.			

Crossover network, 8006026, PCB 14

R1	5100059	10 Ω 10% 9W	R3	5100235	1.8 Ω 10% 3W
R2	5100333	6.8 Ω 10% 17W	R4	5104009	10 Ω 10% 3W

C1	4200692	68 µF 10% 35V	C4	4130152	2.2 µF 10% 100V
C2	4200709	220 µF 20% 35V	C5	4130385	3.9 µF 10% 100V
C3	4200708	47 µF 10% 35V	C6	4130312	680 nF 10% 63V

Crossover network, 8006021, PCB 15

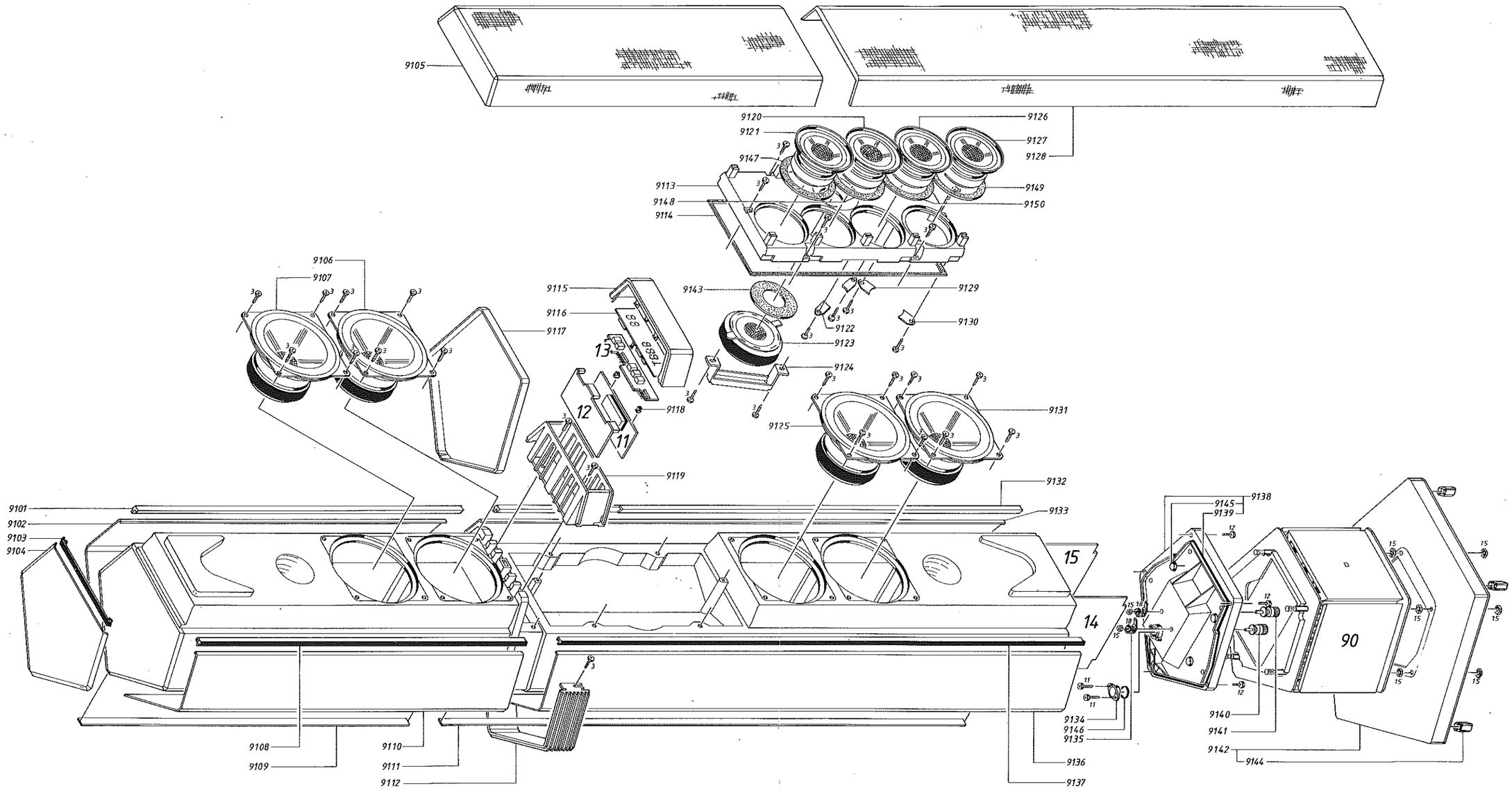
R1	5100326	2.2 Ω 10% 9W	R3	5100242	6.8 Ω 5% 3W
R2	5100339	8.2 Ω 10% 7W	R4	5100242	6.8 Ω 5% 3W
C1	4200683	22 µF 10% 35V	C5	4200687	10 µF 10% 35V
C2	4200682	8.2 µF 10% 35V	C6	4130312	680 nF 10% 63V
C3	4200691	82 µF 15% 35V	C7	4130312	680 nF 10% 63V
C4	4130384	3.3 µF 10% 100V	C8	4200683	22 µF 10% 35V
L1	6850189	270 µH	L4	6850191	1 mH
L2	6850190	1 mH	L5	6850166	47 µH
L3	6850168	150 µH			

Bang&Olufsen

MEKANISK STYKLISTE
LIST OF MECHANICAL PARTS

9101	2560224	Pynteliste, lille	Decorative moulding, small
9102	3302407	Kabinetside og -liste, lille	Cabinet side and moulding, small
9103	2560219	Pynteliste, top	Decorative moulding, top
9104	3458407	Kabinettop	Cabinet top
9105	3450668	Stoframme, lille	Front panel, small
9106	8480197	Bashøjttaler	Woofer
9107	8480197	Bashøjttaler	Woofer
9108	2560224	Pynteliste, lille	Decorative moulding, small
9109	3452525	Kabinetliste, kort	Cabinet side, short
9110	3302407	Kabinetside og -liste, lille	Cabinet side and moulding, small
9111	3452524	Kabinetliste, lang	Cabinet moulding, long
9112	3444181	Gitter	Grill
9113	3440092	Baffel for mellemtone	Baffle for midrange
9114	3947202	Skumtape i metermål	Foam tape by the meter
9115	3320103	Dækglas for display, type 6611	Cover glass for display , type 6611
	3320099	Dækglas for display, type 660X	Cover glass for display , type 660X
9116	3131288	Hus for LED, type 660X	LED housing, type 660X
9117	3320100	Bånd	Frame
9118	2576050	Holder for PCB, type 660X	Holder for PCB, type 660X
9119	3132099	Skuffe for PCB	Tray for PCB
9120	8480196	Mellemtonehøjttaler	Midrange speaker
9121	8480196	Mellemtonehøjttaler	Midrange speaker
9122	2630024	Beslag for mellemtonehøjttaler	Fitting for midrange speaker
9123	8480206	Diskanthøjttaler	Tweeter
9124	3031125	Beslag for diskanthøjttaler	Fitting for tweeter
9125	8480197	Bashøjttaler	Woofer
9126	8480196	Mellemtonehøjttaler	Midrange speaker
9127	8480196	Mellemtonehøjttaler	Midrange speaker
9128	3450667	Stoframme, stor	Front panel, big
9129	2630024	Beslag for mellemtonehøjttaler	Fitting for midrange
9130	2630024	Beslag for mellemtonehøjttaler	Fitting for midrange
9131	8480197	Bashøjttaler	Woofer
9132	2560225	Pynteliste højre, stor	Decorative moulding right, big
9133	3302406	Kabinetside og -liste, stor	Cabinet side and moulding, big
9134	6275649	Ledningsbundt med DIN stik	Wire bundle
	7210608	Stikdåse 7 pol. DIN	Socket 7 pole DIN
9135	7500234	Stikben	Pin
9136	3302406	Kabinetside og -liste, stor	Cabinet side and moulding, big
9137	2560226	Pynteliste venstre, stor	Decorative moulding left, big
9138	3454478	Bund med tryk	Bottom with print
9139	3947202	Skumtape i metermål	Foam tape by the meter
9140	7210596	Bøsning, sort	Bushing, black
9141	7210595	Bøsning, rød	Bushing, red
9142	8860250	Glas sokkel	Glass socket
9143	3340064	Pakning	Gasket
9144	3103224	Fod	Foot
9145	3103066	Gummifod	Rubber foot
9146	2732084	O-ring	O-ring
9147	3340070	Pakning for mellemtone	Gasket for midrange
9148	3340070	Pakning for mellemtone	Gasket for midrange
9149	3340070	Pakning for mellemtone	Gasket for midrange
9150	3340070	Pakning for mellemtone	Gasket for midrange

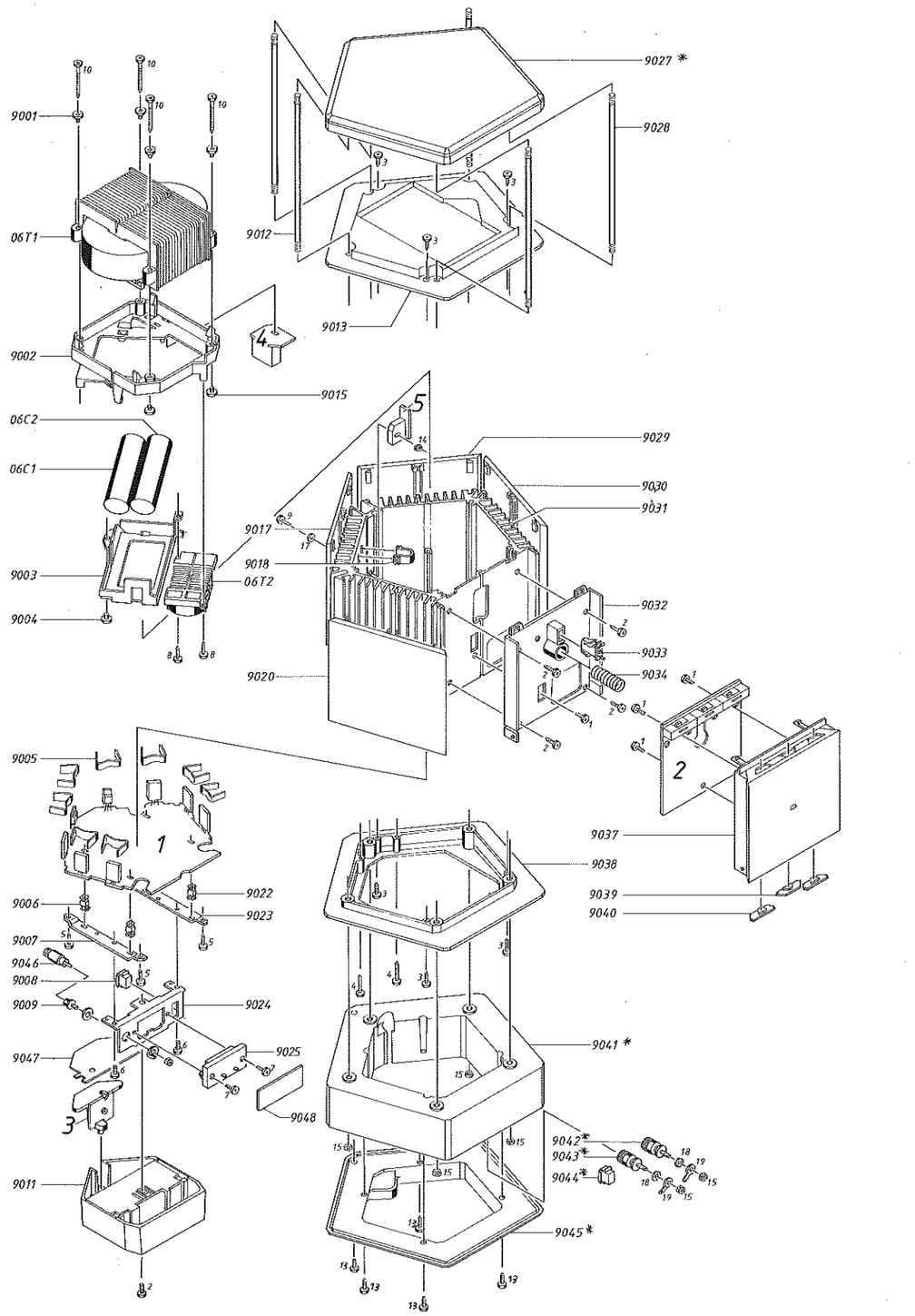
11 Modul	8006025	PCB Display control, type 660X	PCB Display control, type 660X
12 Modul	8006024	PCB Display drive, type 660X	PCB Display drive, type 660X
13 Modul	8006023	PCB Display, type 660X	PCB Display, type 660X
14 Modul	8006026	PCB Delefilter	PCB Crossover network
15 Modul	8006021	PCB Delefilter	PCB Crossover network


9105
9120
9121
9147
9113
9148
9114
9126
9127
9128
9149
9150
9143
9129
9122
9123
9130
9124
9131
9125
9106
9107
9115
9116
9117
13
12
11
9118
9119
9132
9133
9101
9102
9103
9104
15
14
9108
9109
9110
9111
9112
9136
9137
9138
9145
9139
90
9134
9146
9135
9140
9141
9142
9144

2-13

2-13

9001	2938154	Bøsning	Bushing
9002	3152455	Holder f. elektrolytter	Holder for electrolytes
9003	3164608	Låg f. elektrolytter	Cover for electrolytes
9004	2938154	Bøsning	Bushing
9005	2819157	Bøjle	Clamp
9006	3152063	Holder f. PCB 1	Holder for PCB 1
9007	2542669	Vinkel f. PCB 1	Bracket for PCB 1
	3947202	Skumtape i metermål, til vinkel	Foam tape by the meter, for bracket
9008	7210521	Stikdåse 4 pol.	Socket 4 pole
9009	7210567	Stikdåse phono	Phono socket
9011	3164627	Dæksel f. stikbrønd	Cover for socket
9012	2076007	Gevindstykke	Threaded piece
9013	3162266	Sammenspændingsstykke	Assembling piece
9015	2938154	Bøsning	Bushing
9017	3164643	Dækplade m. tryk, type 6601	Cover plate with print, type 6601
	3164642	Dækplade m. tryk, type 6602	Cover plate with print, type 6602
	3164640	Dækplade m. tryk, type 6603	Cover plate with print, type 6603
	3164641	Dækplade m. tryk, type 6604	Cover plate with print, type 6604
	3164639	Dækplade m. tryk, type 6605	Cover plate with print, type 6605
9018	3152507	Ledningsholder	Wire holder
9020	3164602	Dækplade	Cover plate
9022	3152063	Holder f. PCB 1	Holder for PCB 1
9023	2542669	Vinkel f. PCB 1	Bracket for PCB 1
	3947202	Skumtape i metermål, til vinkel	Foam tape by the meter, for bracket
9024	2542668	Vinkel f. stik	Bracket for socket
9025	7210509	Dobbelt stikterminal	Double socket terminal
9028	2076007	Gevindstykke	Threaded piece
9029	3164603	Dækplade	Cover plate
9030	3164602	Dækplade	Cover plate
9031	2568847	Køleprofil	Heat sink
9032	3452527	Bagstykke, betjening	Rear cover, control
9033	3034066	Lås f. låg	Lock for lid
9034	2812113	Trykfjeder	Pressure spring
9037	3168687	Betjeningspanel	Control panel
9038	3162268	Sammenspændingsstykke	Assembling piece
9039	2776037	Knap omskifter	Switch button
9040	2776037	Knap omskifter	Switch button
9046	7220591	Kortslutningsstik	Short-circuit plug
9047	3302426	Isolationsstykke	Insulation piece
	3947202	Skumtape i metermål, til isolationsstk.	Foam tape by the meter for insulation piece
9048	6141199	PCB for stikterminal	PCB for socket terminal
01 Modul	8002915	PCB forstærker	PCB amplifier
02 Modul	8002831	PCB betjening	PCB control
03 Modul	6271040	PCB sikringer, netledning type 6601/02	PCB fuses, mains lead type 6601/02
	6270342	PCB sikringer, netledning type 6603/04	PCB fuses, mains lead type 6603/04
	6270343	PCB sikringer, netledning type 6605	PCB fuses, mains lead type 6605
	7200052	Sikringsholdere	Fuse holders
04 Modul	8002784	PCB relæ	PCB relay
	3917109	Dæmpemateriale	Damping material
05 Modul	8002832	PCB netdel	PCB power supply unit
06T1	8013369	Transformator, type 6601/02/05	Transformer, type 6601/02/05
	8013375	Transformator, type 6603	Transformer, type 6603
	8013376	Transformator, type 6604	Transformer, type 6604
06T2	8013370	Transformator, type 6601/02/03/05	Transformer, type 6601/02/03/05
	8013377	Transformator, type 6604	Transformer, type 6604
06C1	4200653	10000 µF 20% 80V	10000 µF 20% 80V
06C2	4200653	10000 µF 20% 80V	10000 µF 20% 80V
	3917109	Dæmpemateriale	Damping material



*Kun i Beolab 150, type 172x

*Only in Beolab 150, type 172x

Ikke viste dele
Parts not shown

6270167	Ledning 4 m, type 6611	Cable 4 m, type 6611
3341059	Blændprop f. DIN stik, type 6611	Sealing plug for DIN socket, type 6611
6270336	4 m skærmet HT ledning 4 pol stik, 660X	4 m shielded loudspeaker cable 4 pole pin, type 660X
6270352	10 m skærmet HT ledning 4 pol stik, 660X	10 m shielded loudspeaker cable 4 pole pin, type 660X
3040026	Topnøgle, type 660X	Socket spanner
3922025	Dæmpemateriale, lille klods	Damping material, small block
3922024	Dæmpemateriale, stor klods	Damping materiai, big block
3946038	Folie i meter	Foil by the meter
3397604	Skumemballage f. glassokkel	Foam packing for glass socket
3397555	Skumemballage mellemstykker	Foam packing for spacers
3397554	Skumemballage endestykker	Foam packing for end pieces
3391838	Yderæske, type 660X	Outer carton, type 660X
3397601	Skumemballage til bund, type 660X	Foam packing for bottom, type 660X
3391974	Yderæske, type 6611	Outer carton, type 6611
3391975	Indlæg, type 6611	Insert, type 6611
3170169	Glimmerskive	Mica washer
6275627	Ledningsbundt m. DIN stik	Wire bundle with DIN Plug

Oversigt skruer, skiver m.m.
Survey of screws, washers etc.

1	2013208	Skrue M 2,9 x 9,5	Screw M 2.9 x 9.5
2	2039027	Skrue AM 3 x 6	Screw AM 3 x 6
3	2015088	Skrue M 3,5 x 16	Screw M 3.5 x 16
4	2015116	Skrue 3,5 x 25	Screw 3.5 x 25
5	2015201	Skrue M 3,5 x 9,5	Screw M 3.5 x 9.5
6	2039026	Skrue AM 3 x 4	Screw AM 3 x 4
7	2039028	Skrue AM 3 x 8	Screw AM 3 x 8
8	2015008	Skrue U 3,5 x 13	Screw U 3.5 x 13
9	2039014	Skrue AM 3 x 20	Screw AM 3 x 20
10	2015115	Skrue M 3,5 x 50	Screw M 3.5 x 50
11	2013107	Skrue M 2,9 x 9,5	Screw M 2.9 x 9.5
12	2043016	Skrue AM 4 x 10	Screw AM 4 x 10
13	2013017	Skrue M 2,9 x 13	Screw M 2.9 x 13
14	2380011	Møtrik M3	Nut M3
15	2380016	Møtrik M4	Nut M4
17	2624013	Skive	Washer
18	2625003	Stjerneskive	Tooth lock washer
19	7530111	Loddeflig	Solder tag

JUSTERINGER

Tomgangsstrøm

Tomgangsstrøm justeres medens forstærkeren er kold og uden signal tilført.

Højttaler må ikke være tilsluttet.

DC millivoltmeter tilsluttes over 1R103/1R104.

1R95 justeres til 30 mV.

Offset

DC voltmeter tilsluttes højttalerudgangen.

1R59 justeres til 0 V.

ADJUSTMENTS

No-load current

Adjust the no-load current while the amplifier is cold and without any supply of signal.

The loudspeakers must not be connected to the amplifier.

Connect the DC millivoltmeter over 1R103/1R104.

Adjust 1R95 to 30 mV.

Offset

Connect the CD voltmeter to the loudspeaker output.

Adjust 1R59 to 0 V.

TECHNICAL SPECIFICATIONS

Type no.	6601/6602/6604/6605
Loudspeaker	
RMS power handling capacity	150 watts
Music power handling capacity	200 watts
Frequency range +4 -8 dB	40-20,000 Hz
Power at 96 dB SPL	2.5 watts
Sensitivity 1 W	92 dB
Distortion 250-1000 Hz	<0.5%
Distortion >1000 Hz	<0.5%
Cabinet principle	Bass reflex
Woofer	4 units 13 cm (5")
Midrange	4 units 8 cm (3")
Tweeter	2.5 cm (1")
Crossover frequency	700/5000 Hz 18 dB/octave
Net volume	32 litres
Power amplifier	
Power output 20-20,000 Hz IHF	1 x 150 watts/8 ohms
LINE input	80 mV/1 W, 1 V/150 W, 22 kohms,
	phono plugs
Power input	800 mV/1 W, 10 V/150 W, 15 kohms
	4-pin DIN or spring loaded contacts
Bass level switch	Linear, +3 dB/40 Hz, +6 dB/40 Hz
Sensitivity switch	0 dB, -3 dB, -6 dB
Power supply	6601: 220 V
	6602/6605: 240 V
	6603: 120 V
	6604: 100 V
Power frequency	50-60 Hz
Power consumption	Max. 300 watts
Stand-by	2 watts
Dimensions WxHxD	5-13.5 x 165 cm incl. stand

Type no.	6611
RMS power handling capacity	150 watts
Music power handling capacity	200 watts
Impedance	8 ohms
Frequency range +4 -8 dB	40-20,000 Hz
Power at 96 dB SPL	2.5 watts
Sensitivity 1 W	92 dB
Distortion 250-1000 Hz	<0.5%
Distortion >1000 Hz	<0.5%
Cabinet principle	Bass reflex
Woofer	4 units 13 cm (5")
Midrange	4 units 8 cm (3")
Tweeter	2.5 cm (1")
Crossover frequency	700/5000 Hz 18 dB/octave
Net volume	32 litres
Dimensions WxHxD	5-13.5 cm x 150 cm incl. stand
Weight	17 kg

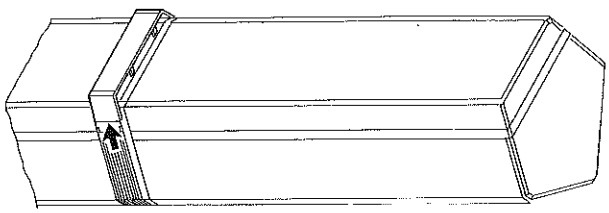
Subject to change without notice

Sensitivity switch	Input for 150 W output	Amplifier for 4 ohms output	Amplifier for 8 ohms output
MAX.	10 V	– 25 W	– 12 W
MED.	14.1 V	25 W – 50 W	12 W – 25 W
MIN.	20 V	50 W – 100 W	25 W – 50 W

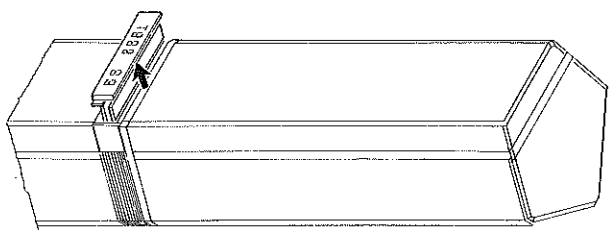
Bang&Olufsen

ADSKILLELSE

Display



Dækslet afmonteres ved at rykke i pilens retning.



Displayenheden er nu tilgængelig, og kan løftes ud i serviceposition.

DISMANTLING

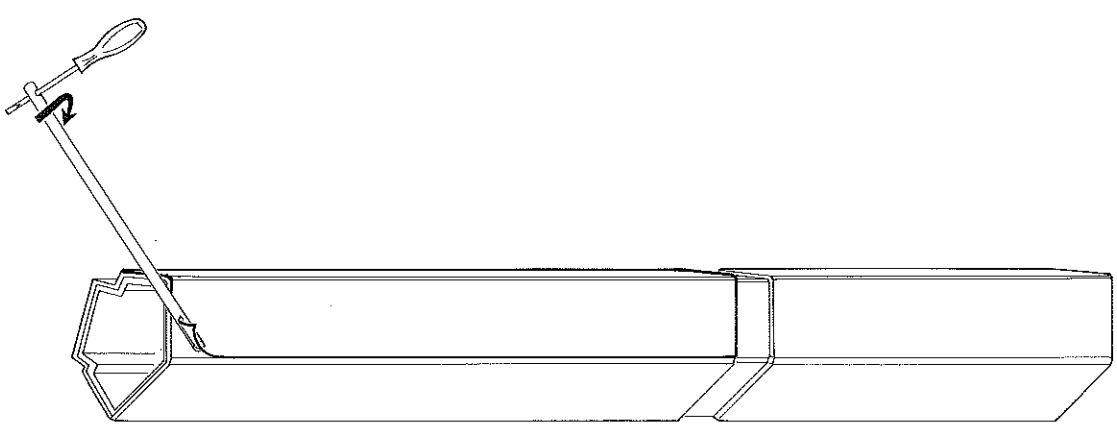
Display

Dismantle the cover by pulling it in the direction indicated by the arrow.

The display unit is now accessible and free to be lifted up in service position.

SERVICETIPS

Udskiftning af aluminiumsfolie



Aluminiumsfolien løsnes forsigtig i et hjørne.

Hjælpeværktøj bestillingsnr. 3629116 benyttes som vist på tegningen.

SERVICE TIPS

Replacement of aluminium foil

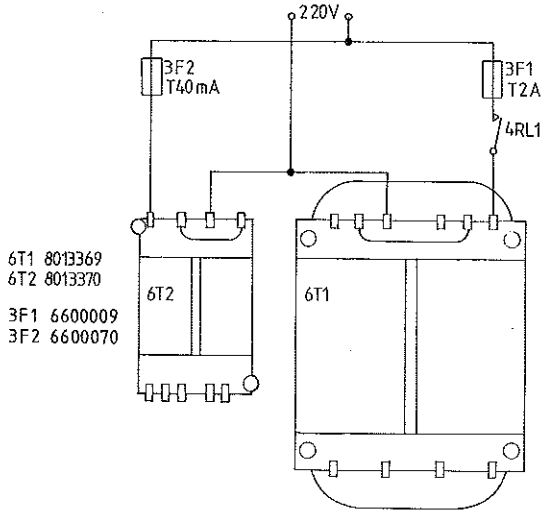
Loosen the aluminium foil carefully in one corner.

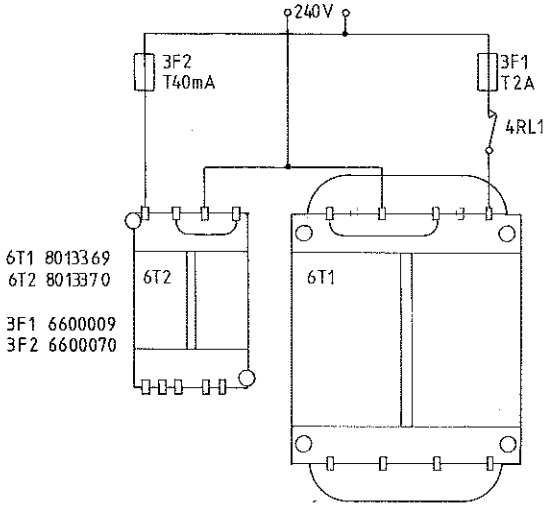
Use the auxiliary tool, part no 3629116 as shown on the drawing.

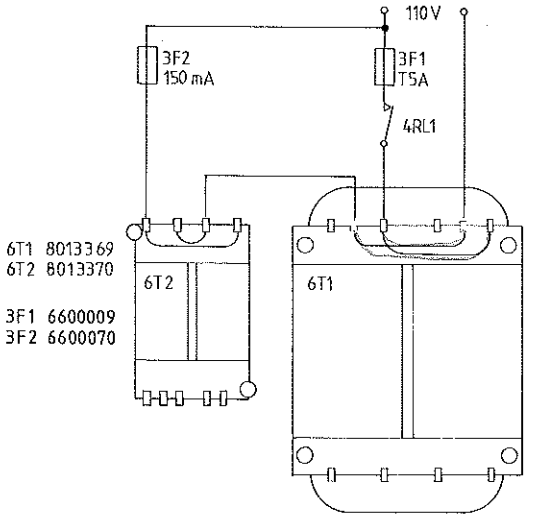
Ledningsmontering på nettransformatorer

Wiring of Mains Transformers

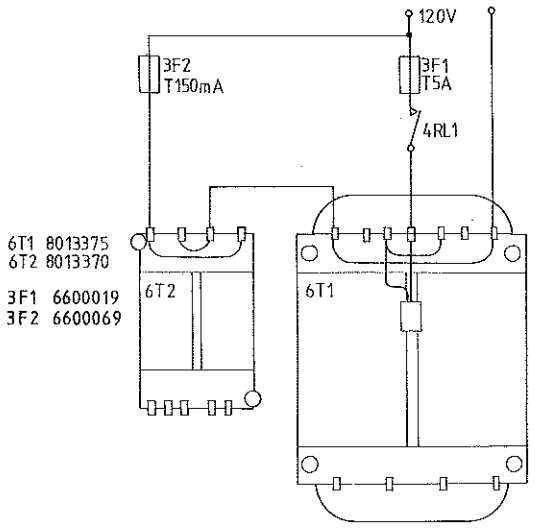
Type 6601
Type 6602
Type 6605

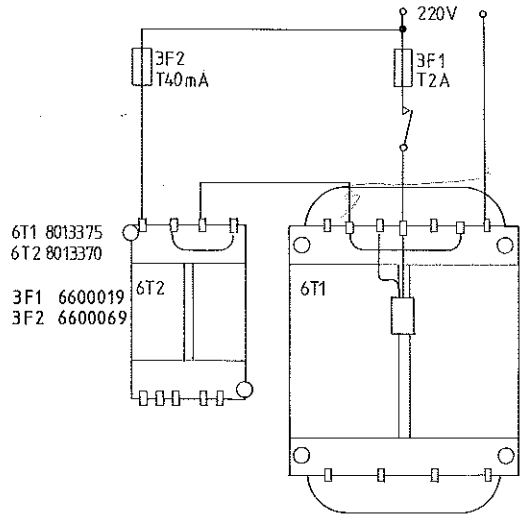


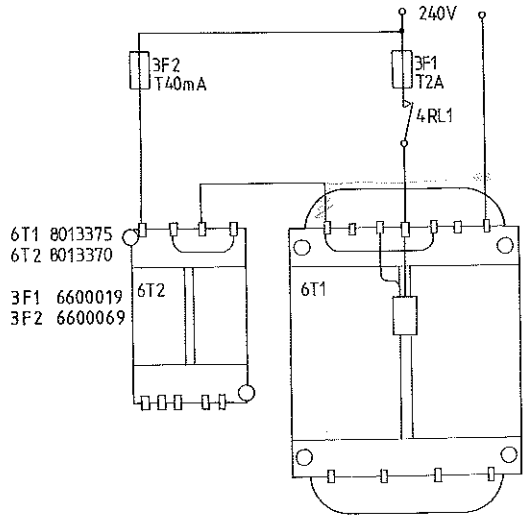


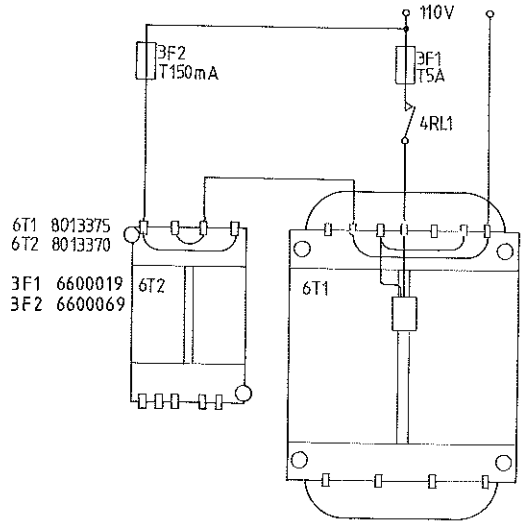


Type 6603

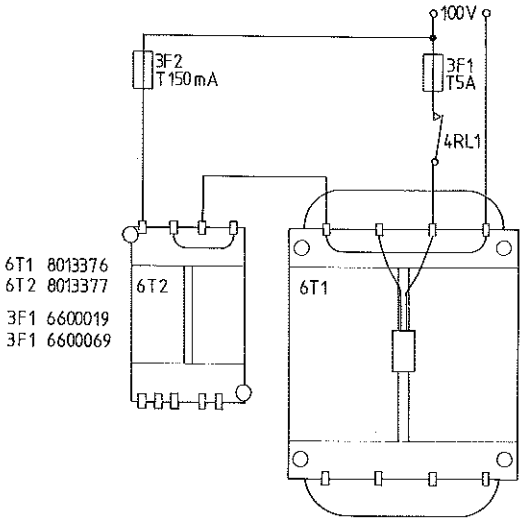

120V
3F2
T150mA
3F1
T5A
4RL1
6T1 8013375
6T2 8013370
3F1 6600019
3F2 6600069
6T2
6T1


220V
3F2
T40mA
3F1
T2A
6T1 8013375
6T2 8013370
3F1 6600019
3F2 6600069
6T2
6T1


240V
3F2
T40mA
3F1
T2A
4RL1
6T1 8013375
6T2 8013370
3F1 6600019
3F2 6600069
6T2
6T1


110V
3F2
T150mA
3F1
T5A
4RL1
6T1 8013375
6T2 8013370
3F1 6600019
3F2 6600069
6T2
6T1

Type 6604


100V
3F2
T150mA
3F1
T5A
4RL1
6T1 8013376
6T2 8013377
3F1 6600019
3F1 6600069
6T2
6T1

ISOLATIONSTEST
Ethvert apparat skal isolationstestes efter at det har været adskilt. Testen udføres når apparatet igen er helt samlet og klar til udlevering til kunden.

Isolationstesten udføres på følgende måde:
De to stikben på netstikket kortsluttes og tilsluttes en af terminalerne på isolationstesteren. Den anden terminal fra isolationstesteren tilsluttes den sorte klembøsning i AMP LEVEL INPUT.

OBS!
For at undgå beskadigelser på apparatet er det vigtigt, at begge terminaler fra isolationstesteren har virkelig god mekanisk kontakt.

Der drejes nu langsomt med spændingsreguleringen på isolationstesteren indtil en spænding på 1,5 - 2 kV er opnået. Her skal den holdes i 1 sekund, derefter drejes der langsomt ned for spændingen igen.

Der må ikke på noget tidspunkt under testen forekomme overslag.

INSULATION TEST
Earch set must be insulation tested after dismantling.The test is to be performed when the set has been reassembled and is ready for delivery to the customer.

Make the insulation test as follows:
Short-circuit the two plug pins of the mains plug and connect one of the terminals of the insulation tester. Connect the other terminal of the insulation tester to the black spring loaded contact marked AMP LEVEL INPUT.

N.B.!
To avoid ruining the set, it is essential that both insulator test terminals are in really good mechanical contact.

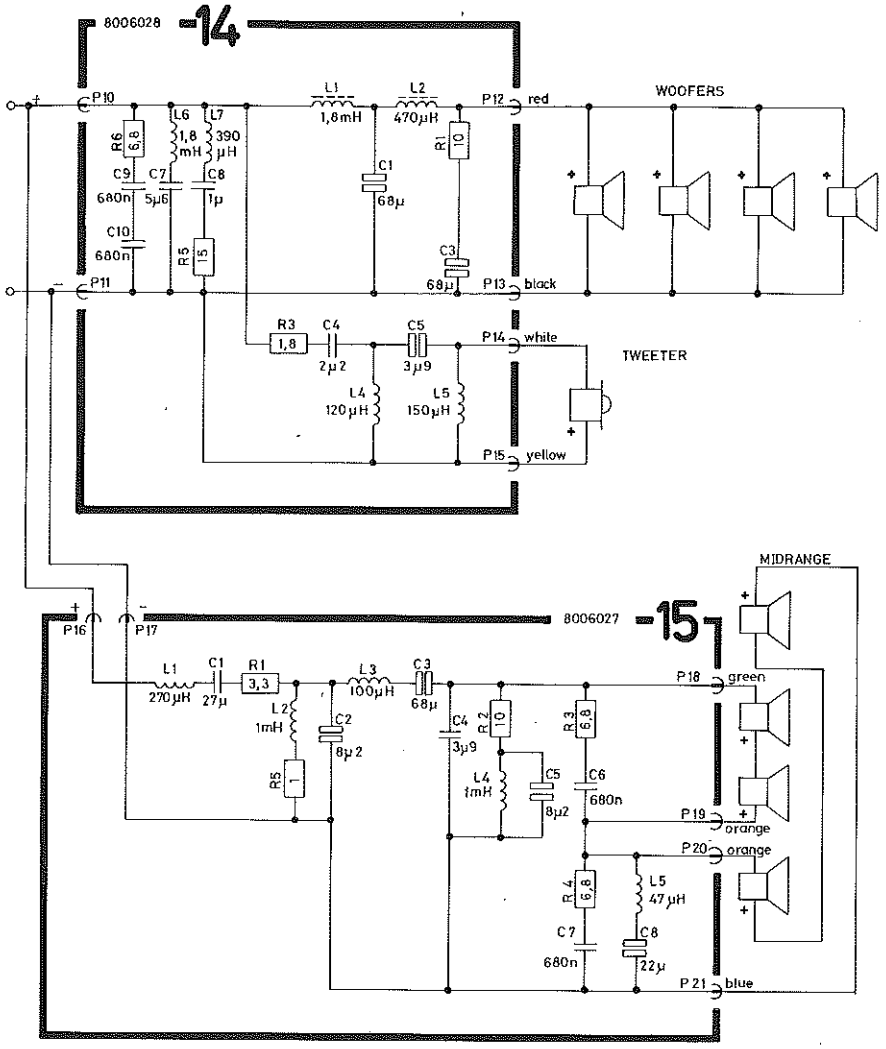
Now turn slowly the voltage control of the insulation tester until a voltage of 1.5 - 2 kV is obtained. Hold it there for 1 second, then turn slowly the voltage down again.

At no point during the testing procedure any flash-overs are permissible.

Crossover network, Type 660x, 6611

For apparater med højere nr. end 04771089 benyttes dette diagram og stykliste.

For sets with serial nos. higher than 04771089 use this diagram and parts list.



Crossover network, 8006028, PCB14

R1	5100059	10 Ω 10% 9W	R5	5100200	15 Ω 10% 3W
R3	5100235	1.8 Ω 10% 3W	R6	5100242	6.8 Ω 5% 3W
C1	4200692	68 µF 10% 35V	C7	4200732	5.6 µF 10% 35V
C3	4200692	68 µF 10% 35V	C8	4130155	1 µF 10% 100V
C4	4130152	2.2 µF 10% 100V	C9	4130312	680 nF 10% 63V
C5	4130385	3.9 µF 10% 100V	C10	4130312	680 nF 10% 63V
L1	6850193	1.8 mH	L5	6850142	150 µH
L2	6850192	470 µH	L6	6850200	1.8 mH
L4	6850196	120 µH	L7	6850198	390 µH

Crossover network, 8006027, PCB15

R1	5100340	3.3 Ω 10% 9W	R4	5100242	6.8 Ω 5% 3W
R2	5104009	10 Ω 10% 3W	R5	5104020	1 Ω 10% 3W
R3	5100242	6.8 Ω 5% 3W			
C1	4200731	27 µF 10% 35V	C5	4200682	8.2 µF 10% 35V
C2	4200682	8.2 µF 10% 35V	C6	4130312	680 nF 10% 63V
C3	4200692	68 µF 10% 35V	C7	4130312	680 nF 10% 63V
C4	4130385	3.9 µF 10% 100V	C8	4200683	22 µF 10% 35V
L1	6850197	270 µH	L4	6850199	1 mH
L2	6850190	1 mH	L5	6850166	47 µH
L3	6850188	100 µH			

Samleinstruktion for Beovox Penta type 6611 med Beolab 150 type 172x

Instructions for assembly of Beovox Penta type 6611 and Beolab 150 type 172x

På Beovox Penta afmonteres glasfoden pos. nr. 9142, ved at skrue de 5 skruer A ud, iflg. fig. 1.

Remove the glass base of the Beovox Penta, pos. no. 9142, by removing the 5 screws A, according to Fig. 1.

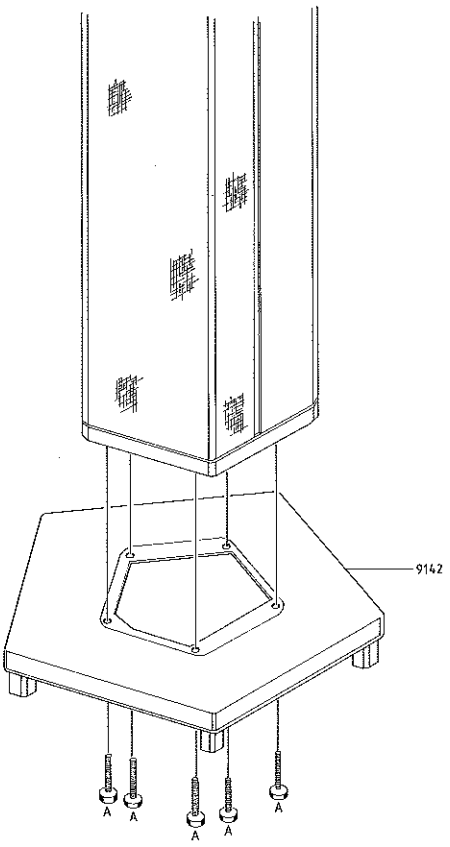


FIG. 1

På Beolab 150 skrues bunden pos. nr. 9045 af, ved at fjerne de 5 skruer B, iflg. fig. 2.
Mellemstykket pos. nr. 9041 frigøres, ved at afmontere de 5 møtrikker C, hvorefter ledningen der forbinder mellemstykket med forstærkerenheden, klippes af 2 cm over forstærkerenheden, iflg. fig. 2.
Den afklippede ledning isoleres og placeres ved siden af stikbrønden på forstærkerenheden.

Remove the base of the Beolab 150, pos. no. 9045, by removing the 5 screws B, acording to Fig. 2.
Lift off the intermediate piece, pos. no. 9041, by removing the 5 nuts C, and then cut off the wire connecting the intermediate piece to the amplifier unit 2 cm above the amplifier unit, according to Fig. 2.
Insulate the cut wire, and position it next to the recess with the sockets on the amplifier unit.

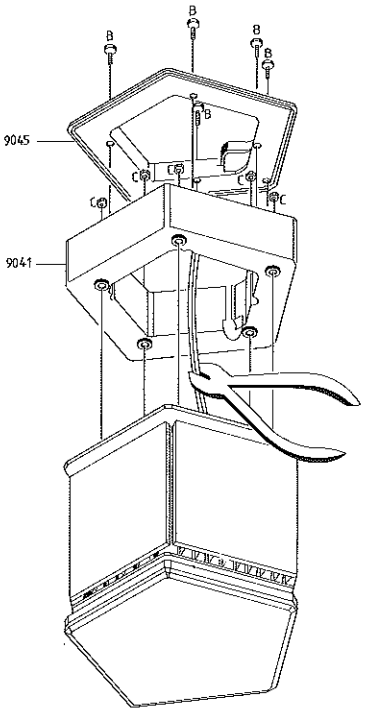


FIG. 2

3538687 05-87 Indklæbes i serviceanvisning Beovox 4 3538615
Paste into service manual Beovox 4 3538615

Forstærkerenheden vendes og låget pos. nr. 9027 løftes af iflg. fig. 3.

Turn the amplifier unit, and lift off the lid, pos. no. 9027, according to Fig. 3.

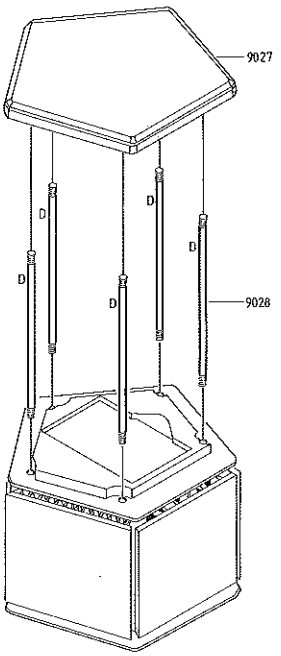


FIG. 3

De 5 stavbolte D afmonteres låget og monteres i bunden op Beovox Penta istedet, iflg. fig. 4.

Remove the 5 bolts D from the lid and mount them in the base of the Beovox Penta instead, according to Fig. 4.

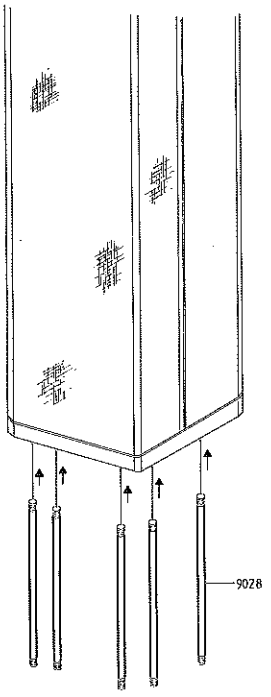


FIG. 4

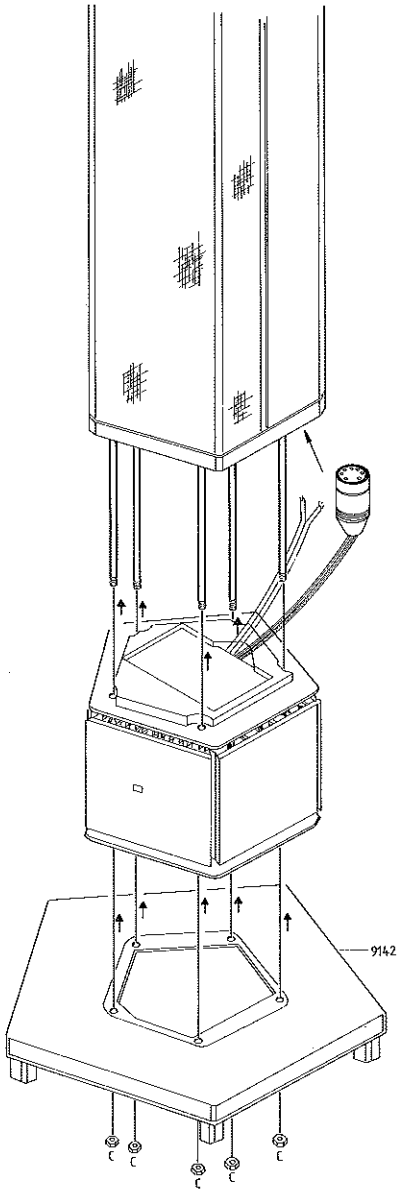


FIG. 5

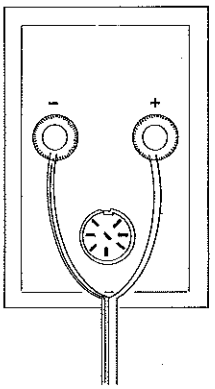


FIG. 6

På disse stavbolte placeres den ændrede Beolab 150 således, at forsiden af Beolab 150 og Beovox Penta vender samme vej, iflg. fig. 5.

Isoleringen på HT-ledningen fra Beolab 150 fjernes, og ledningerne monteres på Beovox Penta med den mærkede ledning til -, iflg. fig. 6.

Proppen over DIN-bøsnsingen i Beovox Penta fjernes, og DIN-stikket fra Beolab 150 monteres.
De 2 enheder kan nu skrues sammen, ved at montere glasfoden nedenunder den ændrede Beolab 150, og derefter montere de 5 møtrikker C, iflg. fig. 5.

Position the modified Beolab 150 on these rod bolts so that the front of the Beolab 150 and of the Beovox Penta face the same way, according to Fig. 5.

Remove the insulation on the speaker wire from the Beolab 150, and connect the wires to the Beovox Penta. Connect the marked wire to -, according to Fig. 6.

Remove the cap on the DIN socket in the Beovox Penta and mount the DIN plug from the Beolab 150 in that socket.
The two units by placing the glass base underneath the modified Beolab 150 and then screwing on the 5 nuts C, according to Fig. 5.

ISOLATIONSTEST
Ethvert apparat skal isolationstestes efter at det har været adskilt. Testen udføres når apparatet igen er helt samlet og klar til udlevering til kunden.

Isolationstesten udføres på følgende måde:
De to stikben på netstikket kortsluttes og tilsluttes en af terminalerne på isolationstesteren. Den anden terminal fra isolationstesteren tilsluttes den sorte klembøsning i AMP LEVEL INPUT.

OBS!
For at undgå beskadigelser på apparatet er det vigtigt, at begge terminaler fra isolationstesteren har virkelig god mekanisk kontakt.

Der drejes nu langsomt med spændingsreguleringen på isolationstesteren indtil en spænding på 1,5 - 2 kV er opnået. Her skal den holdes i 1 sekund, derefter drejes der langsomt ned for spændingen igen.

Der må ikke på noget tidspunkt under testen forekomme overslag.

INSULATION TEST
Earch set must be insulation tested after dismantling.The test is to be performed when the set has been reassembled and is ready for delivery to the customer.

Make the insulation test as follows:
Short-circuit the two plug pins of the mains plug and connect one of the terminals of the insulation tester. Connect the other terminal of the insulation tester to the black spring loaded contact marked AMP LEVEL INPUT.

N.B.!
To avoid ruining the set, it is essential that both insulator test terminals are in really good mechanical contact.

Now turn slowly the voltage control of the insulation tester until a voltage of 1.5 - 2 kV is obtained. Hold it there for 1 second, then turn slowly the voltage down again.

At no point during the testing procedure any flash-overs are permissible.

Bang & Olufsen
DK-7600 Struer
Denmark

Phone +45 96 84 11 22*
Fax +45 97 85 39 11

3538008 03-04